

REMARKS

In the Office Action, the Examiner rejects claims 1 and 3-5 under 35 U.S.C. § 102(e) as anticipated by FIJOLEK et al. (U.S. Patent No. 6,553,568); and rejects claims 6-31 and 34 under 35 U.S.C. § 103(a) as unpatentable over FIJOLEK et al. in view of ZADIKIAN et al. (U.S. Patent No. 6,912,221). Applicant traverses these rejections.

By way of the present amendment, Applicant amends claims 1, 3-8, 10-16, 18-24, 26, 28-30, and 34 to improve form. No new matter has been added by way of the present amendment. Claims 1, 3-8, 10-31 and 34 are pending.

Rejection under 35 U.S.C. § 102(e) based on FIJOLEK et al.

Claims 1 and 3-5 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by FIJOLEK et al. Applicant respectfully traverses this rejection.

Claim 1, as amended, recites a method of allocating upstream resources to a plurality of cable modems. The method includes receiving initial upstream channel requests from the plurality of cable modems; retrieving data from each of the requests; grouping the plurality of cable modems into a plurality of groups based on quality of service requirements of each of the cable modems; ordering allocation of said upstream resources to each of the plurality of cable modems based on based on the retrieved data and the group to which each of the cable modems belongs; and allocating said upstream resources to each of the cable modems based on the ordering. FIJOLEK et al. does not disclose or suggest one or more of these features.

For example, FIJOLEK et al. does not disclose or suggest ordering allocation of upstream resources to each of a plurality of cable modems based on data retrieved from initial upstream channel requests from the plurality of cable modems and based on a

group to which each of the cable modems belongs, and allocating upstream resources to each of the cable modems based on the ordering, as recited in amended claim 1. The Examiner relies on column 23, line 64 – column 24, line 28 of FIJOLEK et al. as allegedly disclosing “ordering allocation of said upstream resource to each of the plurality of cable modems based on the group to which each of the cable modems belongs” and “allocating said upstream resources to each of the cable modems based on the ordering” (final Office Action, pg. 2). Applicant respectfully submits that neither this section, nor any other section, of FIJOLEK et al. discloses or suggests the above feature of amended claim 1.

At column 23, line 64 – column 24, line 28, FIJOLEK et al. discloses:

In one exemplary preferred embodiment of the present invention, the configuration files specify at least a Maximum Rate Limit (“MRL”) for both a downstream and an upstream connection based on a respective CoS policy for a service level agreement. In one preferred embodiment of the present invention, the CMTS 12 to CM 16 or CPE 18, CoS capability is limited to enforcement of maximum bit rates. Since upstream CoS policy enforcement also depends on this downstream rate limitation interaction, the same bandwidth rate is used for upstream CIR and MBR. However, in another preferred embodiment of the present invention, the CoS policy enforcement is not limited only to enforcement of MBR and a separate list of upstream and downstream limits can also be enforced. Table 20 illustrates a list of exemplary configuration files created at Step 160.

At Step 164, the MRL and other CoS or QoS bandwidth information from the configuration files is loaded in the cable access router 144. The cable access router 144 uses the CoS or QoS information to enforce the MRLs for a desired service level agreement between the CMTS 12 and CMs 16 or CPEs 18. includes setting one or more parameters for class-of-service or quality-of-service for the desired service level agreement.

This section of FIJOLEK et al. discloses specifying a Maximum Rate Limit (MRL) for a downstream and an upstream connection based on a policy for a service level agreement. This section of FIJOLEK et al. further discloses that a cable access router enforces the MRLs for a desired service level agreement between the cable modem termination system and the cable modems. This section of FIJOLEK et al. does not disclose or

suggest ordering an allocation of resources based on data retrieved from initial upstream channel requests from the plurality of cable modems. Instead, this section of FIJOLEK et al. merely discloses specifying a maximum rate limit for a connection. Therefore, this section of FIJOLEK does not disclose or suggest ordering allocation of upstream resources to each of a plurality of cable modems based on data retrieved from initial upstream channel requests from the plurality of cable modems and based on a group to which each of the cable modems belongs, and allocating upstream resources to each of the cable modems based on the ordering, as recited in amended claim 1.

For at least the foregoing reason, Applicant submits that claim 1 is not anticipated by FIJOLEK et al.

Claims 3-5 depend from claim 1. Therefore, claims 3-5 are not anticipated by FIJOLEK et al. for at least the reasons given above with respect to claim 1.

Rejection under 35 U.S.C. § 103(a) based on FIJOLEK et al. and ZADIKIAN et al.

Claims 6-8, 10-31 and 34 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over FIJOLEK et al. in view of ZADIKIAN et al. Applicant respectfully traverses this rejection.

Claims 6 and 7 depend from claim 1. The disclosure of ZADIKIAN et al. does not remedy the deficiencies in the disclosure of FIJOLEK et al. set forth above with respect to claim 1. Therefore, claims 6 and 7 are patentable over FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1.

Independent claim 8 recites a cable modem termination system (CMTS). The CMTS includes a memory to store instructions; and a processing unit to execute the

instructions in the memory to: group a plurality of cable modems (CMs) into a plurality of groups based on quality of service requirements of each of the cable modems, re-boot the CMTS, receive initial upstream channel requests from the plurality of CMs, retrieve data from each of the requests, and determine an order for allocating upstream resources to each of the plurality of CMs based on the retrieved data and the group to which each of the CMs belongs. FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in reasonable combination, do not disclose or suggest this combination of features.

For example, FIJOLEK et al. and ZADIKIAN et al. do not disclose or suggest a processing unit to execute instructions in the memory to determine an order for allocating upstream resources to each of a plurality of CMs based on data retrieved from initial upstream channel requests from the plurality of CMs and a group to which each of the CMs belongs, as recited in amended claim 8. The Examiner admits that FIJOLEK et al. does not disclose or suggest a similar feature and relies on column 6, lines 15-22 of ZADIKIAN et al. as allegedly disclosing the similar feature (final Office Action, pg. 3). Applicants respectfully submit that neither this section, nor any other section, of ZADIKIAN et al. discloses or suggests the above feature of amended claim 8.

At column 6, lines 15-22, ZADIKIAN et al. discloses:

In cases where there is insufficient bandwidth to satisfy all failed connections, the protocol, in one embodiment, uses a quality of service (QoS) metric to prioritize the restoration sequence. In such embodiment, connections with the highest QoS are restored first, followed, in a descending order, by those with a lower QoS, until either all connections have been restored or all available bandwidth has been used.

This section of ZADIKIAN et al. discloses restoring connections with a highest quality of service first, followed, in descending order, by those with a lower quality of service, until either all connections have been restored or all available bandwidth has been used. This section of ZADIKIAN et al. discloses restoring failed connections based on quality of

service and does not disclose or suggest a processing unit to execute instructions in the memory to determine an order for allocating upstream resources to each of a plurality of CMs based on data retrieved from initial upstream channel requests from the plurality of CMs and a group to which each of the CMs belongs, as recited in amended claim 8. In fact, this section of ZADIKIAN et al. does not disclose or suggest data retrieved from initial upstream channel requests from the plurality of CMs at all.

For at least the foregoing reasons, Applicant submits that claim 8 is patentable over FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in any reasonable combination.

Claims 10-14 depend from claim 8. Therefore, claims 10-14 are patentable over FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 8.

Amended independent claims 15, 20, and 34 and claim 25 recite features similar to, yet possibly of different scope than, features recited above with respect to claim 8. Therefore, claims 15, 20, 25, and 34 are patentable over FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in any reasonable combination, for at least reasons similar to the reasons given above with respect to claim 8.

Claims 16-19 depend from claim 15. Therefore, claims 16-19 are patentable over FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 15.

Claims 21-23 depend from claim 20. Therefore, claims 21-23 are patentable over FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 20.

Claims 26-31 depend from claim 25. Therefore, claims 26-31 are patentable over FIJOLEK et al. and ZADIKIAN et al., whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 25.

Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests the withdrawal of the outstanding rejections and the timely allowance of this application.

As Applicant's remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicant's silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such assertions (*e.g.*, whether a reference constitutes prior art, reasons to modify a reference and/or reasons to combine references, etc.) is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such assertions/requirements in the future.

To the extent necessary, a petition for an extension of time under 37 C.F.R.

§ 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY & HARRITY, LLP

By: /Meagan S. Walling, Reg. No. 60,112/
Meagan S. Walling
Registration No. 60,112

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11350 Random Hills Road
Suite 600
Fairfax, Virginia 22030
(571) 432-0800

Customer Number: 44987